

DOCKET FILE COPY ORIGINAL

DOCKET FILE COPY ORIGINAL

Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED

JUN 15 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Deployment of Wireline Services Offering)
Advanced Telecommunications Capability)

CC Docket No. 98-147

COMMENTS of SBC COMMUNICATIONS INC.

SBC COMMUNICATIONS INC.

ROBERT M. LYNCH
ROGER K. TOPPINS
MARK ROYER

One Bell Plaza, Room 3024
Dallas, Texas 75202
214-464-2217

Its Attorneys

June 15, 1999

No. of Copies rec'd 2
List ABCDE

TABLE OF CONTENTS

Summary.....	i
I. SBC Efforts To Encourage The Deployment Of Advanced Services.....	1
II. Spectrum Management: Long Term Standards And Practices.....	2
A. Spectrum Management Will Be Critical To The Optimal Deployment Of Advanced Services.....	2
B. The Commission Should Encourage The Finalization Of Standards Based On Power Spectral Density ("PSD") Masks And Require Adherence To Those Standards By All Companies Using The Copper Loop Plant.	3
C. The Commission Should Require CLECs To Provide ILECs With Certain Information When Ordering Unbundled Loops So The Incumbents Can Carry Out Their Spectrum Management Responsibilities.....	4
D. The Commission Should Further Define "Significantly Degrade" So All Carriers Understand And Apply A Consistent Definition.....	6
E. The Commission Should Impose An Indemnification Requirement On The Deployment Of Nonstandard Technologies So The Carrier Deploying Such Technologies Bears The Risk Of Such Technologies Causing Harm.	7
F. The Commission Has Authority To Impose These Requirements.	8
G. Management Principles Within Individual LECs Should Be Sufficiently Flexible As To Allow For Individual Differences Between Companies....	8
H. ANSI Is The Appropriate Standards Body And Already Has Procedures In Place Which Encourage Industry Participation And Which Are Designed To Be Competitively Neutral.....	9
I. Dispute Resolution On Spectrum Compatibility Problems Should Be Handled By Existing Groups And/Or Should Be Handled According To The Dispute Resolution Provisions Of The Parties' Interconnection Agreements.....	10
J. There Is No Need For Third Party Assistance On Spectrum Management Policies.....	11
K. The Commission Should Not Mandate Requirements Concerning Deployment And Use Of AMI T1.....	11

III.	Spectrum Unbundling Of The Local Line.....	12
A.	Line Sharing And Spectrum Unbundling Are Different Concepts.....	12
B.	Spectrum Unbundling Of The Same Local Line For Use By Multiple Carriers Is Not Required By The Telecommunications Act.....	14
C.	Spectrum Unbundling Of The Local Loop Is Not Necessary For The Deployment Of Advanced Services.....	14
D.	The Commission Does Not Have Legal Authority To Mandate Spectrum Unbundling Under The Supreme Court's Interpretation Of The "Necessary and Impair" Standard.	16
E.	Nothing Prevents CLECs With ADSL From Offering Spectrum Unbundling.	17
F.	Spectrum Unbundling Would Be Contrary To This Commission's Prior Rulings And Will Stifle Innovation.	18
G.	Spectrum Unbundling Is Likely To Be Short Term In Nature And To Be Mooted In Any Event By The Direction Of Technology.	19
H.	The Spectrum Unbundling Proposal Is Based Upon A Number Of Potentially Erroneous And Invalid Assumptions Concerning Lower Costs, Increased Provisioning Speed, And Greater Availability Of Advanced Service Capabilities.	20
1.	It Will Take Close To Two Years Time To Develop The Necessary Operations Support Systems To Support Two Carriers Serving Customers Over The Same Local Line.....	20
2.	It May Ultimately Be More Expensive To Purchase Unbundled Spectrum Than To Purchase A UNE Loop.....	22
3.	Spectrum Unbundling Of The Local Line Will Create Operational And Administrative Problems And Is Likely To Adversely Affect Service Quality.	23
4.	Use Of Unbundled Spectrum Is Not Always Feasible.....	25
a.	Most CLECs Use DSL Technology That Requires A Separate Line.	25
b.	CLECs As Well As ILECs Cannot Use Unbundled Spectrum On Certain Lines.....	25
I.	Spectrum Unbundling Is Likely To Be An Inefficient Use of Resources.	26

IV.	Answers To Specific Questions.....	26
A.	What Effect Will Spectrum Unbundling Have On Existing Analog Voice Service?	26
B.	Should Carriers Be Allowed To Request Just The Voice Channel Of A Line?	26
C.	Should Carriers Be Allowed To Request Any Unused Portion Of A Line?	27
D.	Effect On Operations Support Systems?	27
E.	Which Entity Should Manage The Multiplexing Equipment If Two Carriers Are Offering Services Over The Same Loop?.....	27
F.	Should Different Customers Be Allowed On The Same Physical Loop?	27
G.	How And By Whom Should Problems On The Line Be Handled?.....	27
H.	What Happens If Conditioning A Loop For Advanced Services Requires Removal Of Repeaters Or Load Coils, Which Are Needed To Preserve The Quality Of The Analog Voice Signal?	27
V.	Additional Matters To Consider Should The Commission Decide To Require Spectrum Unbundling.....	28
VI.	Conclusion.....	29

SUMMARY

SBC Communications Inc. ("SBC") strongly supports the deployment of advanced service technologies and capabilities using the SBC wireline telephone network. SBC has encouraged such deployment by opening its network and providing competitors with unbundled network element ("UNE") local loop facilities for the use of advanced services. SBC has aided competitors by providing them with real-time loop prequalification (at no incremental cost to the CLEC) and on request with robust loop qualification information for a charge. SBC has also aggressively deployed its own advanced service access capabilities using asymmetrical digital subscriber line ("ADSL") technology. SBC has made such advanced service access capabilities available to Information Service Providers ("ISPs") through split-billing arrangements and through wholesale discount pricing plans.

SBC actively participates in the development of standards to accommodate the deployment of numerous advanced service technologies and capabilities by multiple providers in the wireline telephone network. SBC believes such deployment can best be facilitated and accomplished through reasonable methods of spectrum management. Further, SBC believes that, while the overall guiding principles of spectrum management should be consistent across the nation, the implementation of those principles within individual local exchange companies ("LECs") must be sufficiently flexible to allow for individual differences between companies.

SBC supports the development of national spectrum management standards by the T1E1.4 working group of the ANSI Committee T1, and urges the Commission to encourage the development and finalization of those standards. SBC supports T1E1.4's work on Power Spectral Density ("PSD") masks as a means of defining Spectrum Management Classes through which interference between and among various technologies, services, and providers can be managed.

Wireline telephone companies need to know which technologies are being deployed when an order is placed and in which Spectrum Management Class they belong in order to efficiently manage the wireline network. This knowledge is essential to the ability to assign loops in order to maximize the loops available for advanced services and to minimize interference between and among all concerned. Without spectrum management, established standards, and carrier identification of the technology in the loop request, problems will occur, not only in terms of provisioning and assigning loops, but in terms of repair and testing. It will be exceedingly more difficult to isolate trouble and/or out-of-service problems, much less correct them, without spectrum management, established standards, and advance informational requirements.

As a proponent of the deployment of advanced services in the wireline telecommunications network, SBC supports the Commission's FNPRM and supports the Commission helping the industry move forward in this area. The Commission can ensure the rapid and successful deployment of advanced services with constructive rulings in the area of spectrum management. SBC recommends that the Commission adopt the following proposals that allow the highest number of consumers to benefit from the highest quality of advanced services, while reducing avoidable interference and repair issues. The Commission should:

1. Endorse national standards and the use of Power Spectral Density (PSD) Masks and the associated Spectrum Management Classes as presently pursued by ANSI working subcommittee T1E1.4, and should require adherence to those standards by all companies using the copper loop plant.
2. Require all carriers to identify the Spectrum Management Class or PSD of the technology that they intend to deploy on the loop, so as to enable efficient spectrum management.
3. Further define "significantly degrade" as outlined in the Commission's order so all carriers understand and apply a consistent definition.
4. Acknowledge that any harm on working services in associated binder groups caused by the deployment of non-standard approved technologies on unbundled loops should be the responsibility of the party deploying the technology, and require that party to indemnify others for any harm to working services.

5. Endorse the use of a flexible set of guidelines, consistent with national standards, for Binder Group Management in the feeder portion of the loop.

While reasonable and enforceable spectrum management policies and standards are desirable, spectrum unbundling of the local line is not. The line can be provisioned and used without any requirement of spectrum unbundling.

Spectrum unbundling cannot be required under the Supreme Court's interpretation of the "necessary and impair" standard and would be contrary to this Commission's prior rulings that one carrier should have the exclusive use and choice of what to do with the line. Spectrum unbundling will stifle incumbent local exchange carriers' ("ILECs") ability to innovate by placing limits on the spectrum available to them. Locking ILEC wireline companies into yesterday's technology and, thus, deterring their innovation and deployment of advanced service capabilities, would be discriminatory and contrary to the public interest.

The demand for spectrum unbundling is based upon invalid assumptions of lower costs and increased provisioning speed and availability. More than one carrier using different frequencies on the same line is not reasonable or practical, and may prove to be economically infeasible. Implementing the practice is also likely to be complicated and time consuming. Spectrum unbundling would be contrary to the direction of technology which is moving toward packet switching. And, if anything, spectrum unbundling will be a short term and ultimately unnecessary requirement since, with packet switching, derived voice and data can be provided on the same spectrum and on the same line. Voice over data will moot any need for spectrum unbundling.

Spectrum unbundling is also based upon some invalid technical assumptions. The DSL technologies, which most CLECs have currently deployed, cannot coexist on the same line with analog voice services because they use the same frequencies (0-4 kHz). And ADSL requires a separate line in certain instances.

Stated another way, requiring spectrum on the local line to be unbundled is likely to be an inefficient use of resources. It is not necessary to and will not bring any immediate, much less long term, benefits to the deployment of advanced services. SBC believes the Commission should consider each of these factors, and should decline to require spectrum unbundling.

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)

Deployment of Wireline Services Offering)
Advanced Telecommunications Capability)

CC Docket No. 98-147

COMMENTS of SBC COMMUNICATIONS INC.

SBC Communications Inc. ("SBC") submits these comments in response to the Commission's First Report and Order ("FR&O") and Further Notice of Proposed Rulemaking ("FNPRM") in the above referenced proceeding (released March 31, 1999). The comments are limited to the issues of spectrum management and spectrum unbundling.

I. SBC Efforts To Encourage The Deployment Of Advanced Services.

SBC fully supports the deployment of advanced service technologies and capabilities using the SBC wireline telephone network. SBC has encouraged industry deployment of advanced services in a number of ways.

SBC offers Competitive Local Exchange Carriers ("CLECs") meaningful opportunities to deploy DSL technologies over SBC unbundled loops. Interconnection contracts provide unbundled DSL capable loops to support a wide variety of DSL technologies, both standard and non-standard. SBC offers a real-time pre-qualification through its Operations Support Systems ("OSSs") for CLECs to pre-qualify their targeted market at no incremental cost to the CLECs. SBC provides robust loop qualification information, upon request and for a charge, so that the CLEC can determine what, if any, loop conditioning may be required and what technology might best serve the customer. SBC has also made advanced service access capabilities available to Information Service

Providers ("ISPs") through split-billing arrangements and through wholesale discount pricing plans.

In addition, SBC has deployed its own advanced service capabilities using asymmetrical digital subscriber line ("ADSL") technology. In fact, SBC has initiated the largest successful introduction of ADSL in the United States with its service offering in California and Texas.

II. Spectrum Management: Long Term Standards And Practices.

A. Spectrum Management Will Be Critical To The Optimal Deployment Of Advanced Services.

SBC agrees with the Commission that spectrum management rules are necessary both to foster the competitive deployment of innovative technologies and to ensure the quality and reliability of the public telephone network. (FR&O, para. 63). SBC also agrees that the development of spectrum management rules and practices is necessary so that multiple technologies can coexist within binder groups. (FR&O, para. 61).¹ SBC has been an active participant in ANSI technical subcommittee T1E1, which is developing DSL standards, and has advocated the development and application of national standards. SBC further agrees that early attention to spectrum management is the best way to avoid problems occurring later as penetration levels rise. (FR&O, fn. 185). Proper provisioning, inventorying, and managing deployed DSL technologies and the associated spectrum issues offer the best ways to prevent service degradation, spectrum exhaust, and prolonged repair intervals.

The Commission recognizes that ILECs will have the responsibility to manage binder groups to maximize the number and types of advanced services that can be deployed. (FR&O, para. 76). SBC readily accepts that responsibility, and agrees that the network should be managed in a way which optimizes the number and quality of services

¹ Because different technologies will coexist within binder groups, spectrum management will be a requirement whether or not different technologies reside on different frequency bands within the same local loop.

that can be deployed by all carriers to consumers, while protecting every provider and/or service on the network. The Commission can assist the telecommunications industry in meeting these responsibilities by taking the actions set forth below.

B. The Commission Should Encourage The Finalization Of Standards Based On Power Spectral Density ("PSD") Masks And Require Adherence To Those Standards By All Companies Using The Copper Loop Plant.

To efficiently manage the network in a multiple carrier and multiple technology environment requires rules and standards. Otherwise, as penetration levels rise, a high probability exists that various services provided by multiple companies will interfere with one another to the detriment of all concerned. The establishment and use of such rules and standards, and the Commission requiring that they be followed, will go far in minimizing interference problems.

The potential for spectral interference can be minimized or reduced through the use of the Spectrum Management Classes proposed by T1E1.4. Currently under development in standards working group T1E1.4, PSD masks are used to define Spectrum Management Classes into which the Digital Subscriber Line ("DSL") technologies are categorized. Each technology within a given Spectrum Management Class is deemed to have the same interference characteristics as described by the associated PSD. T1E1.4 has been working on Spectrum Management Classes as a way to allow services to coexist in close proximity within the same or in adjacent binder groups. However, the standards have yet to be finalized. Because such standards are needed as soon as possible, the Commission should endorse the approach taken by T1E1.4 and encourage the industry working group to finalize such standards. Once finalized, the Commission should also require adherence to the standards by all companies using the copper loop plant. Otherwise, the standards themselves would be meaningless. In doing so, the Commission will be furthering the public interest by ensuring that standards are

quickly put in place, become operational, and are enforceable in order to reduce spectrum interference issues.²

The Commission should recognize that the standards developed by ANSI, in particular the Spectrum Management standard, are living documents that evolve over time to accommodate technological innovation. As such, these standards promote innovation while providing structure and guidance for the telecommunications industry. It is the historical lack of a Spectrum Management standard that has resulted in the development of numerous incompatible technologies. Finalization of the Spectrum Management standards, together with the Commission's requirement for adherence, will advance the industry's ability to serve while encouraging innovation in technology.³

C. The Commission Should Require CLECs To Provide ILECs With Certain Information When Ordering Unbundled Loops So The Incumbents Can Carry Out Their Spectrum Management Responsibilities.

The PSDs and Spectrum Management Classes being developed by ANSI are for the purpose of identifying and reducing interference issues. For them to be effective, however, the requesting carrier must identify to the ILEC the technology the carrier intends to deploy on the requested unbundled loop. In its FR&O, the Commission requires ILECs to disclose to requesting carriers information with respect to the number of loops using advanced services technology within the binder and the *type* of technology deployed on those loops. (FR&O, para. 73). This is in addition to the ILECs'

² The need for PSD masks and classification of technologies within those masks is very real. Different types of DSL technologies possess characteristics capable of interfering with one another. SBC TRI (SBC's technology research subsidiary) conducted field tests to determine the actual existence of interference between DSL technologies deployed over actual copper plant during the week of 3/29/99 in Santa Rosa, California. ADSL was shown not to be a significant source of interference with itself. However, SDSL at the 764 and 1152 kbps rates were strong sources of interference for ADSL. Lower rates of SDSL as well as IDSL also caused reductions in ADSL performance, although not as significant as the higher SDSL rates.

³ There are many technology options already within the standards being developed by the T1E1.4 working group.

responsibility to manage binder groups. (FR&O, para. 76). The ILECs cannot meet either of those obligations unless certain informational requirements are imposed on CLECs.

Information is needed by the ILEC at the time the order is placed so it can properly assign loops and make advanced services available to the greatest number of carriers and customers. Without loop specific Spectrum Management Class information, the valuable work of establishing standards becomes essentially meaningless, because carriers managing the network will not be able to apply the spectrum guidelines established by such standards. SBC proposes to accommodate requests by offering unbundled loop products labeled consistent with the Spectrum Management Classes defined by T1E1.4. Unfortunately, the CLECs are not currently required to disclose this type of information to the ILECs, although many have indicated a willingness to do so. Thus, the Commission should require the CLECs to identify the Spectrum Management Class (based on PSDs) that they intend to deploy on the unbundled loop to the ILEC at the time the loop is ordered.

This issue has been addressed in the state of Texas. The Texas Public Utility Commission ("PUC") and Southwestern Bell Telephone Company ("SWBT") have signed a Memorandum of Understanding ("MOU") concerning "Project 16251: Results of the Collaborative Process" (which was approved by the Public Utility Commission of Texas on April 29, 1999). In Section V.J.1. of the MOU, the Texas PUC requires CLECs to "advise SWBT of the type of specific technology(ies) (including PSD masks) the CLEC intends to provision over an unbundled SWBT loop." Here, SBC requests the Commission to place the same requirement on all carriers requesting unbundled DSL compatible loops. The Commission should also require the CLECs to notify the ILEC of any proposed technology change in the use of the loop so the ILEC can correct its records and anticipate the effect that the change might have on spectrum management.

For the same reasons, since some non-standard technologies are permitted to be deployed, the Commission should require the CLEC deploying such technology to

identify the PSD mask and data rate under which the technology will operate to the ILEC, so the ILEC can manage the network in an effort to accommodate those technologies.

ILEC knowledge of such information is also necessary for the ILECs to conduct testing and trouble resolution. It is anticipated that a number of potential service complaints may arise due to spectrum interference. Proper trouble isolation and correction (including moving the service to a new pair) is difficult or impossible if the ILEC does not have the information regarding what technologies are on each loop throughout the cable. Without such information, the ILEC cannot be expected to correct, much less diagnose, the source of service degrading interference in a timely and efficient manner.

D. The Commission Should Further Define "Significantly Degrade" So All Carriers Understand And Apply A Consistent Definition.

The FNPRM also seeks comment on the definition of "significantly degrade" so as to ensure that consumers have the broadest selection of services from which to choose without harming the network. (Para. 88). The Commission has tentatively defined the term to mean something that "noticeably impairs a service from a user's perspective." (FR&O, fn. 166).

Significantly degrading a service should include, (among other things): (1) causing it not to work as described in the tariff; (2) causing it not to work as described in the contract or agreement with the customer; (3) materially reducing the distance over which the service can be provided (*i.e.*, significantly reducing its availability and reach to prospective or existing customers); and, most importantly, (4) materially interfering in any way with or precluding the provision of Plain Old Telephone Service ("POTS"). By being more specific, the Commission will help all carriers understand and apply a consistent definition.

E. The Commission Should Impose An Indemnification Requirement On The Deployment Of Nonstandard Technologies So The Carrier Deploying Such Technologies Bears The Risk Of Such Technologies Causing Harm.

The Commission's rules allow CLECs to deploy nonstandard technologies (and technologies that do not comply with T1E1.4 standards), and the ILECs are limited under the Commission's rules in their ability to manage the deployment of those technologies. For example, any technology which has been successfully deployed by any carrier elsewhere without significantly degrading the performance of other services is presumed acceptable for deployment in all of the ILECs' networks. (FR&O, para. 67).

Because the Commission has permitted the deployment of such technologies, it is reasonable to require that the deploying carrier bear the risk of indemnifying affected carriers and customers for any loss should the deployment decision prove wrong and cause harm to the network and/or customers. Provided the carrier identifies the PSD mask and speed for the non-standard technology, as recommended above, SBC fully intends to manage the deployment of the technology in the cable plant in a manner that will reduce any spectrum interference to the greatest extent possible. However, should the non-standard technology nonetheless create significant interference with another working service, and a legal action is pursued by the user of the working service, then the ILEC should be indemnified for and relieved of any responsibility by the carrier deploying the non-standard technology. This requirement will properly assign the risk of deploying the technology and the responsibility for testing to the deploying carrier.

This issue has also been addressed in the Texas MOU (Project 16251). In Section V.C. of the MOU, the Texas PUC requires CLECs to "assume full and sole responsibility for any damage, service interruption or other telecommunications service degradation effects and will indemnify SWBT for any damages to SWBT's facilities, as well as any other claims for damages." SBC believes this type of indemnification is appropriate and requests the FCC to also establish it as a federal requirement.

F. The Commission Has Authority To Impose These Requirements.

The Commission seeks comment on its authority to impose requirements in this area. (FNPRM, para. 79). While it is advisable to leave most of the work to industry standards groups, the Commission is not without a role in the process and can go far to ensure that the process gets off the ground and the network is protected. The Commission's role to protect existing services and existing service providers from harm, while authorizing and encouraging the deployment of innovative technologies in the network, is analogous to its responsibility for mobile radio services where the Commission has adopted several rules. Thus, the Commission would appear to have a role and authority to encourage standards bodies to adopt and/or finalize certain rules, and to require that they be followed.

G. Management Principles Within Individual LECs Should Be Sufficiently Flexible As To Allow For Individual Differences Between Companies.

The Commission should allow flexibility in the spectrum management implementation process and the flexibility should be sufficient to allow for individual differences between companies. An example of where that implementation flexibility should be allowed is Selective Feeder Separation ("SFS"). SFS is an approach to spectrum management which takes advantage of the technical differences between ADSL and other DSL technologies to increase the overall spectral capacity of a feeder cable.⁴ While ADSL is a major interferer with other DSL technologies, it creates little interference with itself. Thus, SFS aggregates all ADSL services into a single binder group containing no other DSL services. Through this segregation, SFS minimizes the impact of ADSL on other DSL services while maintaining an acceptable environment for

⁴ Example: If 100 SDSL services and 100 ADSL services are randomly provisioned in a 1,000 pair cable, interference will occur in 20% (200/1000) of the cable. If the ADSL services are aggregated into a single 100 pair binder group, the potential for interference within that binder group is zero percent because of the non-interfering aspects of ADSL with itself. The potential for interference throughout the rest of the cable is 11% (100/900). This reduction, from 20% to 11% potential for interference, can provide a significant benefit to SDSL services and effectively increases the total carrying capacity of the cable.

ADSL.⁵ SFS is only practical in the feeder plant. The feeder is characterized by large cables (up to 4200 pairs). These large cables provide the volume needed to effectively manage binder groups. Distribution plant, on the other hand, is normally characterized by smaller cables (25 pair up to several hundred pair). Consequently, feeder provides a better vehicle for SFS management.

It is the size of the feeder cable cross sections that makes SFS feasible as an approach to spectrum management. While SFS does not address minimizing interference in distribution plant, the effect and magnitude of such interference in distribution plant is expected to be less. Because SFS is a reasonable approach to spectrum management and produces identifiable benefits for both DSL and ADSL, the Commission should not restrict its application and should, in fact, encourage it and other creative and flexible approaches to implementing spectrum management, even if all ILECs do not decide to use SFS.

H. ANSI Is The Appropriate Standards Body And Already Has Procedures In Place Which Encourage Industry Participation and Which Are Designed To Be Competitively Neutral.

SBC agrees with the Commission that the spectrum standards setting process should include the active participation of ILECs, CLECs, and equipment suppliers. (FNPRM, para. 79). ANSI already provides such a forum and should be used. The Commission may also want to send a representative or representatives to the meetings so it can be kept apprised of the direction of the meetings, the progress being made, and who is or is not participating in the meetings should they later object.⁶

ANSI Committee T1 is open to all parties with a direct and material interest in the T1 process and activities. ANSI's policy of open membership and balanced participation

⁵ 50 ADSLs can reside in the same binder without causing interference with one another. Conversely, if just one HDSL circuit is placed within that same binder as the ADSLs, all of the ADSLs will interfere with it, and it will interfere with all of the ADSLs.

⁶ The Commission should view skeptically any objection or complaint based on disagreement with a standard filed by anyone who chose not to participate in the development of that standard.

safeguards the integrity and efficiency of the standards formulation process. Required procedures include announcing meetings in advance, distributing agendas in advance, adhering to written procedures governing the method used to develop standards, and giving public notice and opportunity for comment on proposed standards. The ANSI Board of Standards Review continually monitors the process to ensure that the criteria for standards approval are being met.

I. Dispute Resolution On Spectrum Compatibility Problems Should Be Handled By Existing Groups And/Or Should Be Handled According To The Dispute Resolution Provisions Of The Parties' Interconnection Agreements.

The FNPRM seeks comment on methods of guaranteeing fair and timely resolution of spectrum compatibility problems. (Para. 88). SBC believes that such problems are best left to existing groups and procedures, and that no additional groups or procedures are necessary or should be required.

While T1E1.4 of ANSI Committee T1 is the proper forum for addressing technical standards, it is not the group that should handle operational (*i.e.*, ordering, provisioning, and maintenance) issues. Those issues would be better addressed, where necessary, by the existing Operations Billing Forum ("OBF") which routinely addresses such matters, and coordinates with other groups.

As for the need to develop a dispute resolution process regarding the existence of disturbers in shared facilities, SBC believes such disputes are best resolved as provided in the parties' interconnection agreements regarding dispute resolution. The process is already in place, is familiar to the parties to those agreements, and is in no need of augmentation. Going outside of existing groups and procedures would only add more confusion and would do little but to add more duplication and complexity to the coordination processes.

J. There Is No Need For Third Party Assistance On Spectrum Management Policies.

The FNPRM seeks comment on whether the Commission should solicit the assistance of a third party in developing loop spectrum management policies. (Para. 89).

SBC believes that adding a third party to the loop spectrum management process would only further complicate matters. Approval of the ANSI T1E1.4 work in producing Spectrum Management Class standards, and a requirement for such standards to be used, would assist in establishing the necessary spectrum management guidelines. ILECs, in implementing these standards, have every incentive to manage the network in the most efficient manner and to safeguard the integrity and reliability of all services on the network. As a check, the Commission has already required ILECs to demonstrate to the relevant state commission when a requested advanced service will significantly degrade the performance of existing services, before the incumbent can deny the competitor's deployment request. (FR&O, para. 76). Thus, there is already a process in place and there is no need for third party intervention.

K. The Commission Should Not Mandate Requirements Concerning Deployment And Use Of AMI T1.

The FNPRM correctly identifies AMI T1 as a potential disturber to the deployment of advanced services and proposes either eliminating it altogether, rearranging it, and/or grandfathering its deployment and use. (Para. 87).

AMI T1 has been around for more than 25 years. Newly deployed advanced services notwithstanding, AMI T1 remains a very useful and cost effective technology for many large customers, such as banks, credit card verification providers, and a number of other large users of telecommunications. Fiber is not always an economic alternative to AMI T1, nor is it physically available in all instances, and ILECs must have the flexibility and leeway to determine what facilities best serve their customers, including AMI T1.

For the Commission to mandate the non-use, rearrangement, and/or grandfathered use of AMI T1 technology in all instances would not be in the interest of customers whose needs can still be economically served by the deployment of AMI T1, or who are extremely reluctant to have their existing services changed or rearranged. Moreover, rearranging and consolidating existing AMI T1 facilities to create additional spectrum for advanced service use is frequently cost prohibited and customer service affecting. Pacific Bell provided a quote last November to CLECs on such a proposal in California and estimated that it would cost approximately \$243 million in capital and \$63 million in expense to complete the process. Also, the process would take up to a minimum of two years to complete. Significantly, no CLEC signed up for the proposal. Therefore, the Commission should reject the notion of eliminating, grandfathering or rearranging AMI T1, and should leave it to the ILECs on how best to manage their networks.

III. Spectrum Unbundling Of The Local Line.

A. Line Sharing And Spectrum Unbundling Are Different Concepts.

The FNPRM appears to conclude that the local exchange line can be shared by multiple providers of voice and data services in much the same way as it is shared today by providers of local exchange, long distance, and dial-up Internet access services. (Para. 94). However, in the local, long distance, and dial-up Internet context, only *one* provider uses the line at any one time and there is no simultaneous use of the line by multiple carriers. Spectrum unbundling, as proposed in the FNPRM, is an entirely different matter since it contemplates simultaneous use of the same line by multiple service providers. Also, local, long distance, and dial-up Internet services all use the same frequencies (0-4 kHz) whereas spectrum unbundling contemplates carriers simultaneously using different frequencies on the same local line, which is markedly different and considerably more complicated. See discussion Part III. H.1, 2 & 3. Thus, line sharing and spectrum unbundling are very different concepts. SBC defines line sharing as a service arrangement where two carriers may bill for services provided over the line but where

only *one* carrier has control of and sole physical use of the line. Unlike some cable television systems and their parent companies (*e.g.*, TCI/AT&T), SBC is in favor of and allows ISPs to have wholesale access to its wireline advance service capabilities. SBC has over 30 such service arrangements with ISPs in place, and is negotiating other arrangements of this type.⁷

SBC is also not opposed to provisioning local loops for CLECs so they can provide their own advanced and information services using those loops. In that situation the Commission has recognized that it is the CLEC's choice on how to use the UNE loop and that an ADSL capable UNE can be used to provide an array of services.⁸ Stated another way, it is the CLECs who control the revenues that can be produced from whatever services they choose to provide to recover the costs of the provisioned UNE loops.

What SBC has not offered and is opposed to offering is unbundled spectrum on the local exchange line. To the extent the FNPRM concludes otherwise by citing the example of PacBell's arrangement with ConCentric (Para. 103), it is misconstruing the nature of the arrangement. PacBell in that arrangement is the sole network provider, with sole responsibility for ensuring network reliability and integrity. ConCentric is simply billing for the data portion of the ADSL service and the ATM Call Relay service

⁷ Those contracts and plans could be placed in jeopardy if the Commission grants the relief requested by KMC Telecom Inc. in CC Docket 99-142 to prohibit ILECs from having term contracts with early termination charges or if in CC Docket No. 99-201 the Commission requires the services to be further discounted and resold by CLECs. Neither result would be in the public interest since the ILECs would then have to withdraw from those contracts and the ISPs would not be as able to economically package and effectively market high speed access with their information services.

⁸ *In the Matter of GTE Telephone Operating Companies*, 13 FCC Rcd. 22466 ["When a requesting carrier purchases these unbundled network elements, the facilities in question are capable of supporting a variety of services in addition to ADSL, such as local exchange service and access service. Competitors need not recover their costs from ADSL service alone; they have the same opportunity...to recover the costs of network elements from all the services they offer using these facilities."]

provided by PacBell that terminates at ConCentric's location. In other words, ConCentric is re-labeling PacBell's service with ConCentric's name. ConCentric buys the service out of PacBell's wholesale access tariff and sells the service as its own in a split-billing arrangement similar to the ones that have been in place for many years with interexchange carriers. Obviously, there is no unbundling of spectrum in the ConCentric arrangement, and ConCentric does not provide any network access service in that arrangement.

B. Spectrum Unbundling Of The Same Local Line For Use By Multiple Carriers Is Not Required By The Telecommunications Act.

The Federal Telecommunications Act of 1996 ("FTA") only requires that ILECs provide the UNE loop. 47 U.S.C. § 271(c)(B)(iv). It does not require them to further unbundle the loop so that different portions of the spectrum on a loop are provided on an unbundled basis. That result would require extensive modifications and would be providing CLECs with unbundled access to something other than the ILECs' *existing* network; a result which the Eighth Circuit Court of Appeals has held cannot be required.⁹

C. Spectrum Unbundling Of The Local Loop Is Not Necessary For The Deployment Of Advanced Services.

Advanced service capabilities are being deployed today in the wireline cable, wireless cable, and wireline telephone networks without any requirement of spectrum unbundling of the local wired line and/or wireless frequency. For a more detailed discussion of such deployment, see Comments of SBC Communications filed in CC Docket No. 96-98 on March 26, 1999, pp. 65-77, and the *UNE Fact Report* attached to those comments, both of which are incorporated by reference herein.

AT&T has been deploying advanced service capabilities using cable modems with the signals transmitted over TCI's wired cable systems.¹⁰ AT&T and NEXTLINK

⁹ The Eighth Circuit Court of Appeals in *Iowa Utilities Board* held that "subsection 251(C)(3) implicitly requires unbundled access only to an incumbent LEC's *existing* network – not to a yet unbuilt superior one." 120 F.3d at 813.

¹⁰ AT&T acquired TCI's cable systems for a purchase price of \$59.4 billion in 1998. *Washington Post*, Financial Section, p. E01 (May 6, 1999). AT&T has also

have also announced plans to team up with and invest \$45 million in Covad – a data CLEC – which is aggressively deploying DSL services. *Communications Daily*, Telephony Section (January 6, 1999).¹¹ And AT&T has announced plans to roll out a wholesale DSL service in September and to have more than 1200 DSL points of presence (“POPs”) within the next twelve months. *Edge Publishing* (May 3, 1999); and *Internet World* (May 3, 1999). Sprint and MCI WorldCom have also been deploying advanced service capabilities using their own DSLs, ION and On-Net respectively, and have also adopted alternative strategies involving the provision of advanced services using wireless cable licenses.¹²

This Commission has, in fact, recognized the existence of these and other means of deploying advanced service technologies, and has even noted that, in the broader context, the wireline telephone carriers are lagging behind other companies in their deployment of such advanced services technologies.¹³ Moreover, the Commission has also recognized that “the preconditions for monopoly” appear absent in the “last mile” of the advanced services market. *Advanced Services Report*, para. 48 n. 183. Thus, deployment of advanced service technologies has not been impaired by the absence of

proposed to spend \$62.5 billion to acquire the cable systems of MediaOne and Microsoft has promised to invest \$5 billion in AT&T as part of the venture. *News & Record, Section Business*, p.88 (May 7, 1999).

¹¹ Covad’s service is on-line in 11 regions encompassing 26 metropolitan statistical areas (“MSAs”) and has announced plans to deploy its network in 22 regions encompassing 51 MSAs nationwide. *Business Wire* (June 7, 1999).

¹² Sprint hopes to have 1300 DSL POPs by 2001. *Broadband Networking News*, Vol. 9, No. 10 (May 11, 1999). MCI WorldCom has announced plans to have 1000 DSL POPs in service by the end of the decade. *Internet Week* (November 23, 1998). Moreover, MCI WorldCom has reportedly acquired the debt of a number of wireless cable operators (namely CAI Wireless Systems, Wireless One, and CS Wireless Systems). *Id. and Broadcasting & Cable*, Vol. 129, No. 20, P. 129 (May 10, 1999). Similarly Sprint has proposed a merger with wireless cable companies such as People’s Choice TV, American Telecasting Inc., and Transworld Telecommunications and has proposed to acquire Le Groupe Videotron’s stake in Wireless Holdings. *Network World*, Carrier Section, P. 44 (May 10, 1999).

¹³ *Advanced Services Report*, paras. 53-58.

spectrum unbundling of the local loop. Competitors have been able to enter the market through numerous other means, and the ILECs have no advantage in this area.

D. The Commission Does Not Have Legal Authority To Mandate Spectrum Unbundling Under The Supreme Court's Interpretation Of The "Necessary and Impair" Standard.

The FNPRM seeks comment on the Commission's authority to require spectrum unbundling. (Para. 98). SBC agrees with the statements of Commissioners Powell and Furchtgott-Roth that the issue is intertwined with the remand proceeding on the Commission's unbundled network element rule.¹⁴ SBC also believes that the Commission cannot order spectrum unbundling – a new UNE – without first conducting the analysis mandated by the Supreme Court.¹⁵

It cannot be said that spectrum unbundling is "necessary" or that failing to require spectrum unbundling of the local line will "impair" the ability of any carrier to provide advanced services. 47 U.S.C. § 251(d)(2). CLECs *already* provide advanced services in each of the 10 largest MSAs, and in 25 of the top 50. They are in 21 states and 273 cities. Such entry has occurred *without* any requirement of spectrum unbundling of the local line. In contrast, ILECs are offering service in only 7 of the largest MSAs, and in only 22 of the top 50. (*UNE Fact Report*, Map 4 and Table 6). In fact, the ILECs are currently behind the CLECs in deploying advanced-service equipment which uses local lines. (*Advanced Services Report*, paras. 53, 56, 58). Thus, no basis whatsoever exists for a conclusion that spectrum unbundling can be required under the Supreme Court's interpretation of the "necessary and impair" standard because the CLECs have not been

¹⁴ Powell Statement ("...I believe we must first establish and apply the Section 251(d)(2) standard to determine whether loops must be unbundled before we make even tentative conclusions about whether some portion of that loop must also be unbundled or "shared."). Furchtgott-Roth Statement ("I believe the Commission should first address the standard for unbundling network elements consistent with the Supreme Court's remand, prior to concluding, even tentatively, that we have the authority to require line sharing...").

¹⁵ *AT&T Corp. V. Iowa Utilities Board*, 119 S. Ct. 721, 733-36 (1999).

impaired and there are plenty of available alternatives to spectrum unbundling that can be used in providing advanced services.

If one of the main purposes of spectrum unbundling is to give the CLECs a cheaper local loop for the provision of advanced data services, (see FNPRM, para. 96, and separate statement of Commissioner Tristani) that, too, fails to meet the "impair" standard.¹⁶ The Supreme Court has *already* rejected the Commission's previous conclusion that the "impairment" standard is met if "*the failure of an incumbent to provide access to a network element would...increase the financial or administrative cost of the service a requesting carrier seeks to offer, compared with providing that service over other unbundled elements in the incumbent LEC's network,*" *Iowa Utils. Bd.*, 119 5Ct. at 735, quoting 11 FCC Rcd at 15643, Paragraph 285. [Emphasis added]. Consequently, because *it might* cost more to buy a separate line than it would to buy a portion of the spectrum on an existing line does not provide a legitimate or legally sustainable basis for requiring unbundling of the spectrum on that line.¹⁷

E. Nothing Prevents CLECs With ADSL From Offering Spectrum Unbundling.

CLECs are as able as ILECs to deploy ADSL technology and thus to allow voice and data services to coexist on the same local line. CLECs are also just as able to unbundle the spectrum on such lines, should they choose to do so, because they have the exclusive use of those lines.¹⁸ Significantly, although some CLECs are using ADSL, not one of them (to SBC's knowledge) has decided to unbundle the spectrum on those lines. That is, the same companies who appear to be favoring ILEC unbundling of spectrum are not attempting to do it themselves with their own lines, even though nothing prevents

¹⁶ SBC also believes that spectrum unbundling may not result in a cheaper local loop. See discussion, *infra*, Part III. H.1. & 2.

¹⁷ In fact, it would be discriminatory to charge a CLEC less for unbundled spectrum than is charged a CLEC which buys the UNE loop because it is likely to cost more to unbundle and administer the spectrum and that cost is not currently included in the price of the UNE loop.

¹⁸ 47 C.F.R. 51.309(c).

them from doing so. This suggests that spectrum unbundling is simply not feasible from an economic, marketing, or network point of view.

F. Spectrum Unbundling Would Be Contrary To This Commission's Prior Rulings And Will Stifle Innovation.

The Commission's current rules permit CLECs to have the "exclusive" use of ILEC provisioned local loops. 47 C.F.R. 51.309(c). The Commission has also previously and correctly rejected the argument that the ILECs should be required to unbundle anything other than the loop facility itself, and has rejected arguments that the line should be unbundled for multiple carrier use.¹⁹ The spectrum unbundling proposal in this proceeding, if adopted, would be contrary to those rulings because it would allow exactly what has so far been prohibited.

If the higher data frequencies (25 kHz and above kHz) are unbundled and made available separately for CLEC use, then the ILECs will not be able to innovate and use those frequencies for their own advanced services, *e.g.*, packetized voice. Packetized voice could reduce the demand on the copper plant while continuing the use of today's circuit switched network.²⁰ To deny ILECs such innovative use of their lines would be discriminatory because it would deny the ILECs – and only the ILECs – the full ability to use such facilities. Unlike the current proposal, the Commission's existing rules strike a reasonable balance between the two outcomes by giving each carrier the "exclusive" use of the assigned lines, so that both CLECs and ILECs are free to innovate and to use the lines in any way they choose.

¹⁹ See *Local Competition Order*, 11 FCC Rcd at 15693 (¶ 385) where the Commission refused to adopt the argument that a loop element should be defined "in functional terms, rather than in terms of the facility itself." The Commission also in that order rejected long distance carriers' requests that the facility be divided and subjected to multi-carrier use with the long distance companies having the use of the loop facility on a "time-share" basis making it at times a "long distance" loop. This was the correct ruling.

²⁰ Packetized voice allows the use of IP over ATM to transport channel switched telephony between the customer premises and the central office.

Greater innovation is likely to occur if the Commission continues to allow each loop to be controlled by one provider. Some providers (indeed most CLECs) offer DSL services that use both the voice and data spectrums, and for them unbundling is not an option. See discussion, *infra*, Part III. H.4.a. Others, like SBC, may offer ADSL and use the analog portion to provide voice service. Still others (US West, MCI WorldCom and Covad) are looking at providing voice over data on the same spectrum, which makes unbundling of the spectrum unnecessary and a moot point. *Internet Week*, "DSL To Deliver Voice" (April 2, 1999); www.xdsl.com/newsreleases/xDSL/3158.asp; *Business Wire* (June 7, 1999). *GMP Media Inc. Telecom*, Service Section, p. 26, "Giving Voice to DSL" (April 19, 1999). The point is that all carriers should be allowed to decide what to do with their loops as a way of promoting innovation and multiple uses of technology. Moreover, without knowing how technology will evolve, requiring spectrum unbundling at this time could well deter innovation rather than promote it.

G. Spectrum Unbundling Is Likely To Be Short Term In Nature And To Be Mooted In Any Event By The Direction Of Technology.

The FNPRM correctly notes that telecommunications network architectures are migrating from a circuit to a packet environment. (Para. 107). In fact, the migration is already taking place.²¹ The CLECs are today buying more DSLAMs, frame relay, and ATMs from third-party vendors, than they are buying SESS and DMS switches, which suggests they are more interested in packet switching.²²

²¹ Three years ago, voice constituted 90 percent of all phone line traffic. Data now accounts for about half of all phone traffic. Packet switching has become advanced enough to handle continuous voice communication and even video transmission. Data is expected to account for 80 percent of all phone traffic within the next five years. *Upside*, Vol. 11, No. 2, pp. 92-106 (February 1999), Paul Keegan & Katie Avoy: "Research at the Speed of Light." "The convergence of voice and data applications on packet networks is under way...; The trend is toward increasing growth of voice traffic on packet networks, in both traditional services and mixed-media calling." *LAN MAGAZINE*, Section Technology "Convergence-Voice and Data Come in Packets" (November 15, 1998).

²² "In Q1 1999, Synergy Research Group measured a 67% increase in VoIP equipment revenue over the prior quarter and a 453% increase over the same period last year" *Business Wire*, "Cisco Systems Introduces New Packet

With the wider deployment of packet switching and increased collocation, spectrum unbundling will eventually become moot. In a packet switching environment, voice can be provided over data (also known as derived voice) and the only requirement will be a locally powered terminal.

Since separate spectrum will not be needed in the new environment in order to jointly provision voice and data services and since that environment could be here before the spectrum unbundling process is even complete, the entire spectrum unbundling effort could be for naught.²³ Thus, requiring spectrum unbundling is likely to be only a short term solution with few, if any, immediate, much less long term, benefits.

H. The Spectrum Unbundling Proposal Is Based Upon A Number Of Potentially Erroneous And Invalid Assumptions Concerning Lower Costs, Increased Provisioning Speed, And Greater Availability Of Advanced Service Capabilities.

The FNPRM and concurring statements appear to conclude that spectrum unbundling will result in lower costs, increased provisioning speed, and increased availability of advanced service capabilities. (Para. 96; Separate Statement of Commissioner Tristani). Those assumptions either are or are likely to be incorrect.

1. It Will Take Close To Two Years Time To Develop The Necessary Operations Support Systems To Support Two Carriers Serving Customers Over The Same Local Line.

There are no systems in place that permit multi-carrier physical use of the same local exchange line, and systems will have to be upgraded to handle two network providers simultaneously using the same local exchange line. Existing Operations Support Systems ("OSSs") do not have the inventory, provisioning, maintenance, etc.

Telephone Solutions," Tuesday (May 25, 1999).

²³ In fact, Covad recently completed a successful technical trial which proved the technical capability of simultaneous data and voice service for up to 16 POTs lines over a single DSL line and has demonstrated toll-quality voice calls using DSL over ATM. The solution reportedly combines digital voice and data in the local loop and provides the same quality and full functionality of today's telephone service, including all features such as caller ID and call forwarding. *Business Wire* (June 7, 1999).

capability of handling two providers on a single local loop. While the Trunk Integrated Records Keeping System ("TIRKS") has the capability of maintaining inventory and assignment records for multiple facilities on a single service, it does not currently have the capability to inventory and assign multiple services on a single local loop. TIRKS receives the local loop information, availability, and assignment information from the Loop Facility Analysis and Control System ("LFACs") – the primary loop inventory system – which does not have the capability to inventory and assign multiple services or service addresses on a single local loop. The Work and Force Management ("WFA") systems – which provide installation and maintenance personnel with information needed to provision and maintain services – do not currently have the capability to recognize and administer multiple service providers on a single local loop. SBC estimates that the cost of developing and implementing these upgrades would be in the hundreds of millions of dollars, and that does not include all of the required systems changes or costs. Also, SBC estimates that the process itself could take approximately one and a half to two years to complete. Hence, implementing all the necessary upgrades will be expensive and will not happen overnight.²⁴

²⁴ Stated another way, with unbundled spectrum, there will be OSS costs, and methods and procedures costs, and a number of other costs that the FNPRM did not consider, and which should be recovered in the rates paid by carriers requesting the unbundled spectrum. In addition, if the Commission mandates spectrum unbundling, it will take at least one and a half to two years after the ruling to provide the services. After the ruling, the following activities must occur:

1. Industry standards need to be defined to ensure innovation, while making sure existing services are not affected.
2. Vendors need standards for developing the equipment to permit spectrum unbundling. Vendors need to know the frequency range for voice and data, the buffer between those ranges, and the power requirements within the frequency ranges.
3. Technologies used in the data frequency range need to be designed to protect the voice frequency as was done with ADSL.
4. Vendors then need to develop and manufacture equipment to comply with these standards and specifications.
5. Systems work needs to be performed.
6. The network needs to be prepared for the new equipment. Each central office needs to be engineered and designed to accommodate the new spectrum arrangement.

**2. It May Ultimately Be More Expensive To
Purchase Unbundled Spectrum Than To
Purchase A UNE Loop.**

The FNPRM does not consider all the systems work that will be required, or the costs of completing that work, so that unbundled spectrum can be inventoried, provisioned, maintained, and implemented. The FNPRM also assumes that the equipment involved in the change-over will be identical (Para. 103) when, in fact, the equipment will *not* be the same.

The use of unbundled spectrum by different network providers will require the development of new splitters, both at the DSLAM and the customer premises, in order to provide two separate and distinct services, and to protect the privacy of the voice services as required by various statutes and laws. Also, the splitter at the customer premises will now become network equipment, and will not be considered customer premises equipment ("CPE") as it is today, which adds a network cost.

The solution is not as simple as removing the filter on the DSLAM and porting it out. The new filter has to have more capabilities. The POTS filter in the DSLAM has only a low pass filter and is provided as an integrated part of the DSLAM. The new filter will have to have a low pass filter and a high pass filter to prevent voice traffic from going to the DSLAM for privacy reasons. Additionally, a new shelf to hold these new filters, separate from the DSLAM and owned by the loop provider, must be designed and provided. Other network changes will also be required, and there will be cabling and installation costs.

All the costs are not yet known or quantifiable. However, in the end, when all such costs are considered (as they must be to avoid a regulatory taking), they are likely to be substantial, and it may well be cheaper to buy a UNE loop than to buy spectrum that has been unbundled on the local line.

Another factor to be considered is from whom these costs will be recovered. As will be noted, *infra*, the symmetrical DSL technology chosen by *most* CLECs use the 0-4

7. Procedures need to be developed for inventorying, ordering, maintenance, and repair.

kHz range so those CLECs will still be buying separate lines and not unbundled spectrum. Other CLECs may also not buy the unbundled spectrum, particularly if, as will likely be the case, it is priced higher than a UNE loop.²⁵ Thus, we could be in a situation where costs are incurred by ILECs, the spectrum is unbundled, and no one ever buys the unbundled spectrum. (See discussion, Part III.G).²⁶

3. Spectrum Unbundling Of The Local Line Will Create Operational And Administrative Problems And Is Likely To Adversely Affect Service Quality.

The FNPRM correctly notes that there may be operational, practical, and policy considerations that may weigh against spectrum unbundling. (Para. 97). And, indeed, there are many.

Provisioning multiple carrier services on the same physical loop will require extensive carrier coordination and will result in potentially disruptive activities. Installation times and costs can be expected to increase because of the need to install separate splitters and because of the need to coordinate installations with another carrier. In fact, the provisioning process could potentially take a good deal longer than it does to provision a separate line.

Trouble resolution and testing will become more complicated. Today, ILECs have the capability to test the technologies they deploy, but may not have the testing equipment or the training to test all of the technologies that the CLECs wish to deploy. Trouble resolution will also be delayed by the need to notify another carrier that its

²⁵ In fact, the situation seems very likely considering that one of the early proponents of spectrum unbundling ("PDO") premised its proposal on not having to pay anything for the unbundled spectrum. See *In the Matter of the Petition of PDO Communications, Inc. for Arbitration*, Cal. PUC Decision 99-01-009, p. 11 (January 7, 1999) ["...PDO contends that the price PDO would pay PacBell for the loop, defined as the total estimated long-run incremental cost or TELRIC of the loop, is zero."]

²⁶ In that event, the Commission should consider a cost recovery mechanism which allows the ILECs to recover the costs of complying with the Commission's order, and to protect them since they incurred costs to provide a service that no one may decide to buy.

service may be affected while repairs are made. Trouble resolution will no doubt be further delayed by disputes among carriers on exactly whose service or facility is causing the problem.

Repair time and time out-of-service are also likely to increase because of the coordination required between the two service providing companies, and systems will have to be developed to synchronize turn ups and failures.

Network arrangement and planning will become more difficult. Currently, the SBC wireline companies move pairs around as they upgrade plant. Spectrum unbundling will limit that ability because some of those pairs will involve other companies, and that will make network engineering less manageable, inefficient, and more complex.

Unlike with common transport, which often has built-in redundancy and proactive maintenance capabilities, those capabilities simply do not exist in the local loop. Consequently, in this situation, the problems are likely to be more service affecting, more prolonged, and more severe. These service affecting changes will not go unnoticed by customers. They will also have to be addressed by State commissions.

State commissions will have to address and reconsider their current rules on disconnecting a customer's service for nonpayment when multiple carriers are using the same local line. For example, if the owner of the splitter is not paid, it will attempt to find other uses for the splitter and moving it could affect the other carrier's services. State commissioners will have to reconsider their quality of service rules and regulations, performance standards, and everything else that was premised on the current Commission rule which does not permit or require spectrum unbundling of the local loop. In particular, the Section 271 performance standards will have to be modified because spectrum unbundling is sure to affect many of the important performance measures and their required completion dates (*e.g.*, installation, repair, etc.). Those measures and dates were developed without considering the effects of spectrum unbundling.

4. Use Of Unbundled Spectrum Is Not Always Feasible.

a. Most CLECs Use DSL Technology That Requires A Separate Line.

The FNPRM appears to conclude that spectrum unbundling is technically feasible and that it is the absence of a spectrum unbundling requirement that causes CLECs to incur the cost of a separate line. (Paras. 102 & 96). Implicit in the FNPRM's analysis is the notion that such spectrum will be generally available and widely used. However, use of unbundled spectrum is not always feasible.

Most CLECs today are deploying advanced services using *symmetrical* DSL technology (*i.e.*, ISDL, SDSL and HDSL). Unlike ADSL, which uses the data band (25 kHz and above band for data transport), the symmetrical DSL technology which most CLECs have deployed utilizes the 0-4 kHz band and above for data transport. The 0-4 kHz is the same frequency band used for the provision of traditional voice service, and thus in those instances the two services (data and traditional analog voice) cannot coexist on the same frequency without causing interference to one another. As such, spectrum unbundling as proposed in the FNPRM does nothing for those CLECs. Their choice of technology (namely, symmetrical DSL) requires that they have separate lines.²⁷ In fact, ADSL is the only DSL technology that does not require use of the 0-4 kHz voice frequency.

b. CLECs As Well As ILECs Cannot Use Unbundled Spectrum On Certain Lines.

Loadings are required on lines of over 18,000 feet in order to provide traditional voice service. The loadings cannot be removed on those lines without impairing the voice service. ADSL requires the removal of loadings for the data service to work. Thus, ADSL and traditional voice service cannot coexist on those lines, and the ADSL carrier (be it an ILEC or a CLEC) will have to use a separate line to provide the ADSL service. Hence, spectrum unbundling also does nothing on these lines.

²⁷ . If SBC were to deploy HDSL, it too would have to use a separate line from the one it currently uses to provide voice service.

I. Spectrum Unbundling Is Likely To Be An Inefficient Use of Resources.

Dedicating resources to spectrum unbundling seems nonsensical with the advent of packet switching and the provisioning of voice over data on the same frequency. Buying unbundled spectrum may end up costing more than a separate UNE loop, and no one may end up buying it. Moreover, spectrum unbundling will result in increased provisioning, maintenance, and repair times, because of all the OSS development and associated support issues. Finally, it is doubtful whether such unbundling either should be, or even can be, required given the numerous and less intrusive alternatives to spectrum unbundling as ways to promote the provision of advanced wireline service capabilities. That is, spectrum unbundling is likely to be an inefficient use of capital, and of everyone's resources and time, because it will not likely aid in the deployment of advanced services and will misdirect limited time and resources without corresponding benefits.

IV. Answers To Specific Questions

The FNPRM seeks comment on several questions which it properly recognizes raise operational issues in regard to spectrum unbundling. (Para. 105).

A. What Effect Will Spectrum Unbundling Have On Existing Analog Voice Service?

As noted earlier, analog Lifeline voice service cannot coexist on the same line with the DSL technology deployed by most CLECs and cannot coexist with ADSL on certain other lines.²⁸ (See discussion, Part III.H.4.a. and b.).

B. Should Carriers Be Allowed To Request Just The Voice Channel Of A Line?

No. Spectrum unbundling should not be permitted for all of the reasons stated in Part III, *supra*. Also, SBC is not aware of any CLEC requesting to use the voice channel, except to provide data services.

²⁸. Lifeline voice service as used herein means the voice service provided in the 0-4 kHz band and powered from the central office.

C. Should Carriers Be Allowed To Request Any Unused Portion Of A Line?

No. Spectrum unbundling should not be permitted. But if it is required, a guardband should be established between the voice band and the data band in an effort to minimize the probability of the data service disrupting or interfering with the provision of POTS. Thus, carriers should not be allowed to request just any unused portion of the line. If spectrum unbundling is ordered, there should be a buffer between 4 kHz and 25 kHz which should remain unused.

D. Effect On Operations Support Systems?

See comments in Part III.H.1.

E. Which Entity Should Manage The Multiplexing Equipment If Two Carriers Are Offering Services Over The Same Loop?

Spectrum unbundling should not be permitted. If it is required, filtering equipment should be provided and managed by the provider of traditional voice service ("POTS") in order to maintain the privacy, reliability, and security of the Lifeline voice service. Such equipment is necessary to comply with privacy laws on voice services.

F. Should Different Customers Be Allowed On The Same Physical Loop?

No. Allowing different customers on the same physical loop would only increase costs, cause delay, create addressing problems, and would further complicate the management, coordination and tracking processes.

G. How And By Whom Should Problems On The Line Be Handled?

The loop provider will have to handle problems on the line, but will need the cooperation of the other carrier if spectrum unbundling is permitted.

H. What Happens If Conditioning A Loop For Advanced Services Requires Removal Of Repeaters Or Load Coils, Which Are Needed To Preserve The Quality Of The Analog Voice Signal?

Load coils and repeaters should not be placed or removed when such action would affect the quality of the analog voice signal. In that situation, POTS must be given priority given its Lifeline use and characteristics, if spectrum unbundling is required.

V. Additional Matters To Consider Should The Commission Decide To Require Spectrum Unbundling.

The FNPRM seeks comment on any other concerns that carriers may have on its proposals. (Para. 105). Of course, SBC does not believe that spectrum unbundling should be required. But, if it is, SBC believes that it should be limited to residential services. Businesses already have numerous alternatives. See *UNE Fact Report, supra*.

Assuming the Commission decides to proceed with spectrum unbundling, then it needs to be clear on exactly what is required. The Commission should clarify that, at most, only two service providers should be allowed on any one line. If more than two service providers are allowed on the line, all of the complexities previously identified in Part III. H.1.2. & 3. (*i.e.*, OSS, costs, development time, vendor costs, repair times, etc.) will dramatically increase. There should be only one customer address served by the copper pair. Inventorying multiple addresses would be very costly, confusing, and time consuming. Trouble resolution becomes very difficult and confusing with multiple addresses on the same line.

The spectrum should be divided into, at most, two service ranges: 0-4 kHz for POTS and 25 kHz and above for data. The power ranges permitted within those voice and data bands needs to be specified. Developing multiple bands increases the complexity for vendor development of hardware (*e.g.*, splitters) and software (*e.g.*, Operation Support Systems). The frequencies between 4-25 kHz need to be reserved as a guardband between the two service ranges to minimize interference as shown in the ADSL standards work. Voice over IP ("VoIP") and voice over ATM should be considered data and should be provided in the 25 kHz and above range. They do not meet Lifeline powering requirements. Derived voice will normally have a locally powered terminal device which is susceptible to a local power outage. Thus, derived voice is not normally Lifeline powered voice.

The 0-4 kHz range should be reserved for Lifeline voice service, and load coils/repeaters should not be removed where such removal would have a negative impact

on such Lifeline voice service. Spectrum unbundling should not be allowed in those instances where it will have a negative impact on or preclude the provision of the Lifeline voice service. Only one Lifeline service can be provided on a single copper loop. Technologies used in the data frequency range need to be designed and managed in a manner that will protect the Lifeline voice frequency band.

VI. Conclusion.

The Commission should adopt SBC's proposals with respect to spectrum management, and it should not require spectrum unbundling.

Respectfully submitted,

SBC COMMUNICATIONS INC.

By: /s/ Mark Royer
Robert M. Lynch
Roger K. Toppins
Mark Royer
One Bell Plaza, Room 3024
Dallas, Texas 75202
214-464-2217

Attorneys for SBC Communications Inc.
and its Subsidiaries

June 15, 1999

Certificate of Service

On this 15th day of June, 1999, I, Mary Ann Morris, hereby certify that the Comments of SBC Communications Inc. in CC Docket 98-147 have been served upon the parties listed in the Service List attached to the Comments of SBC Communications Inc.

/s/ Mary Ann Morris

June 15, 1999

ITS
1231 20TH STREET, N.W.
GROUND FLOOR
WASHINGTON, DC 20036

DAVID D DIMLICH ESQ
SUPRA TELECOMMUNICATIONS
& INFORMATION SYSTEMS INC
2620 SW 27TH AVENUE
MIAMI FL 33133

JOHN T LENAHA
AMERITECH
30 SOUTH WACKER DRIVE
FLOOR 39
CHICAGO IL 60606

LEON M KESTENBAUM
JAY C KEITHLEY
H RICHARD JUHNKE
SPRINT CORPORATION
1850 M STREET NW
11TH FLOOR
WASHINGTON DC 20036

RODNEY L JOYCE
J THOMAS NOLAN
SHOOK, HARDY & BACON
600 14TH STREET NW
SUITE 800
WASHINGTON DC 20005-2004